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ROLE OF BUFFER STATES IN INTERNATIONAL RELATIONS

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Nature has made the world a unit, with each part increasingly dependent upon the rest of the world for continued advancement. Tin and rubber needed in the industrial regions of middle latitudes come from the tropics. The world's greatest known nickel reservoir is close to the edge of the populated section of North America, while unindustrialized China produces half the tungsten and a considerable proportion of the antimony used in modern industry. The manufacturing regions of Europe, Asia, and North America are dependent upon the agricultural regions for their food; and the latter can raise their standard of living only by purchasing manufactured goods.

Contrary to the reciprocal plan of Nature, Man, with his greed and feeling of self-importance, has worked relentlessly for centuries to hack the surface of the earth into small bits, politically. And each of these tries to make itself a self-sufficient entity until it sees something it wants in the possession of another. Expansion follows, with attendant wars, to the point where the aggressive state has acquired all it dares to take at the time, or until a stalemate is reached.

In the first instance a boundary is needed, especially if the acquired territory extends close to the ecumene of a nearby state. If a stalemate is reached, further fighting will be postponed until one or the other of the states involved becomes strong enough and bold enough to pick up the battle where it was dropped.

BOUNDARY ZONES—GERMAN MARCHES

Perhaps the intervening country seems not worth fighting for. In this case it may form an effective boundary zone between its neighbors. This was true of the Gran Chaco of Paraguay and Bolivia for many years, and it has been only recently, since nations

have become self-conscious and boundary conscious, that these two have tried to narrow their frontier to a line.

It so happens sometimes that frontier zones are definitely designated bits of land. In this case they may take on the characteristics of marches or buffer states. Marches had their greatest period of importance in the Middle Ages in Britain and what is now Germany. They were formed of newly conquered borderlands under military leaders, called marcher lords, whose duties were to protect the inner core of their sovereign state. The marcher lord financed his own army and exercised almost complete control over his march. The farther away and the weaker the overlord was, the greater was the autonomy of the march. If the marcher lord was strong enough he conquered adjoining lands, adding them to his overlord's domain or to his own march. The new frontier region then became the march. It was in the formation of successive marches that most of England came under one government.

Marches in Germany had varied careers. Some of them were absorbed into the overstate as in England; some became separate states; and still others grew strong enough to dominate their former overlords. Of the first-named group, Thuringia, west of the Saale River, with Halle as a bridgehead reaching eastward, was formed as a march of the Holy Roman Empire. It lost its borderland character as the land east of it was conquered, becoming, instead, an interior connecting link between the core region of the Rhineland and the new marches to the east. The marches that succeeded Thuringia in the eastward sweep of the Germans, in turn, united to form a new province of Saxony on equal footing with the other duchies of the so-called Holy Roman Empire. Saxony remained autonomous within Germany until Hitler came into power. Even Berlin, itself, was at one time a frontier capital, succeeding the city of Brandenburg in the advance eastward.

Of the marches whose destiny was to dominate their former suzerain regions, the most noteworthy were Austria and Prussia. Prussia became the largest and leading power in the North German Confederation, which was the forerunner of the German Empire. Austria, at first a march of Bavaria, later held the position of leader among the German states for five centuries.

Present-Day March States

Some of the so-called buffer states of the present are more nearly march states. A clear example of this type of advance mili-

tary state is found in eastern Asia. Japan first made Korea, renamed Chosen, its protection against feared Russian eastward advance at the turn of the century. The "buffer" state thus formed was controlled and developed by the Japanese army until such time as Japan no longer feared to take it over as a colony. Railroad expansion thru Manchuria by rival Japanese and Russian builders culminated in the formation of Manchukuo in 1932 to replace Korea as a pseudo-buffer.

It is quite evident that these two buffers were set up as advance bases of an expanding Japan while it consolidated its gains preparatory to further expansion. The foreign policy of Japan looks toward the establishment, bit by bit, of the whole of eastern Asia as a sphere of Japanese influence and a controlled market for its manufactured goods. This, if successful, will probably mean a series of march-buffer states carrying Japanese control successively farther westward and southward in Asia.

Natural Buffer States

A buffer state is a technically sovereign state that exists mainly because it serves to lessen friction between its neighbors. It is the political counterpart of an effective barrier boundary. Indeed, some buffers are very little more than boundary zones. Afghanistan may be cited as an example of this type of buffer state. It is a natural buffer, as distinguished from a purely political buffer.

The requirements for a natural buffer are several. First, it should be a barrier zone, with mountains, desert, or swamp land to minimize movement across the country. It should not be crossed by navigable waterways nor by railroads. Further, it should lack natural resources that are likely to be coveted by its neighbors. Technologically, the successful natural buffer state is less advanced than the "powers" it separates, with a subsistence economy producing little or nothing for export. From a political standpoint, the people should not have nationalistic aspirations nor much interest in the affairs of the outside world. Finally, the buffer should not be more dependent upon one interested party than the other.

Examination of Afghanistan shows it measures up fairly well to these requirements. The Hindu Kush Mountains are among the highest and most rugged of the world, and the passes thru them, deep and narrow, are blocked by snow a considerable part of the year. The country meets the other natural, technological, and political conditions, the last in spite of the efforts of recent rulers

to westernize the inhabitants. The U.S.S.R. and Britain are the interested parties and India is the plum protected from Russia by Afghanistan.

Both Britain and Russia, however, have built railroads to the Afghan border and paralleling it, to be ready to step in if and when such a move may seem expedient. The British would seem to be one move ahead of the Russians in this game of political chess, with a railroad ending in the Kyber Pass; but events since September, 1939 have moved fast, and if Germany, the Wolf, cripples Britain, then Russia, the Jackal, may come in to feast upon the remains as it did in Poland.

Iran serves somewhat the same purpose as Afghanistan in that it is a Russo-British buffer. Tho farther advanced than Afghanistan, Iran still lacks good transportation facilities. It has, however, one resource, oil, which has been developed by the British and eyed enviously by most of the other modern world powers. Persian oil is very important to the British Empire and must not fall into Russian hands. The British had a generous concession from 1901 until 1932, when royalties from the oil had given the Persian Shah and his country enough of the taste of wealth that they developed a liking for it. The 1933 oil agreement has limited British control and set a per ton price on all oil taken out. Thus, petroleum is enabling the Shah to build a railroad thru his country and to improve his army. He has followed the former Mustaphah Kamal Ataturk of Turkey in trying to westernize his people. Politically, he plays the Russians, whose Cossack officers used to train his army, and whose communistic ideas have been penetrating Iran in the last twenty years, against Britain, Russia's traditional rival in this region.

The British Empire seems to be the world's greatest buffer builder; and backward Asia has proved a likely place for this particular method of extending influence. Besides the natural barrier buffers already mentioned, there are several others of varying importance and value. The inland boundaries of India are neatly lined with shock absorbers of various types. Some of them are simply mountain tribal regions in which British influence, tho slight, is far greater than that of any other country. Nepal and Bhutan are nominally independent, tho Britain subsidizes them and controls their foreign relations. Tibet would be a near-perfect buffer in view of its barrier quality, its poor transportation, and its backward people with no interest in the affairs of the outside world. But there

is not much need of a further buffer between British and Chinese interests and there is plenty of space between India and the U.S.S.R. in that part of the world.

POLITICO-NATURAL BUFFERS

Some buffer states are not so favored naturally, but if they are considered essential to the balance or the protection of the states they separate, politics steps into the gap, and the state becomes a kind of politico-natural buffer. Iran, with its internal improvements, is in this transitional stage of development at the present. The Belgian Congo serves as a politico-natural buffer between British and French interests in Africa, even tho it is a colonial possession of another European country, inasmuch as that country has been under French and British influence.

In Europe perhaps the Balkan states could be said to be this type of buffer. Yugoslavia, for example, is undoubtedly barrier in character except in the northern part. It is in the north, however, that friction develops. Germany would like to have it plus Trieste as an outlet to the Mediterranean; Italy would like to have the whole of Yugoslavia to insure itself against anyone else controlling the Adriatic Sea; and Russia also wants an outlet, tho it uses the excuse that Russians, too, are Slavic people. Yugoslavia played Germany and Italy against Russia quite successfully for some time; but, with these three cooperating, it is only a matter of time before the whole Balkan question will be settled to the satisfaction of, not the Balkan peoples, but their bullying neighbors. British influence in Rumania, which Britain used as a buffer against Russia in the Black Sea, has apparently disappeared, due to diplomatic and military pressure by the totalitarian triumvirate.

POLITICAL BUFFERS

A country bordered by an equally strong power, unless it forms an alliance with its neighbor, must forever keep a strict vigil on its frontier, particularly if there is no barrier area between. A buffer state separating them relieves the tension somewhat, and substitutes diplomatic for military pressure. It is this type of political buffers which have kept a precarious peace in Europe for varying periods in the past. Switzerland, Netherlands, and Belgium have been the most enduring of these. These are all passage states instead of barrier states. Switzerland, which shows on a map as a mountainous region, grew up because of its people's ability to con-

trol the passes thru the Alps. Switzerland possesses less of the characteristics of a natural buffer and more of those of a really independent state. This is due, in part, to its long period as a separate state, in part, to the alert, well-organized government and ever-ready army, but also to its function as a political buffer between Germany, France, and Italy.

Belgium and Netherlands have been more at the mercy of their powerful neighbors than has Switzerland. They contain the mouth of the Rhine and that part of Europe's coast that lies between Great Britain and Germany. Great Britain and France have guaranteed the independence of these two lowland passage countries to keep Germany at a distance. Germany was inconvenienced by this arrangement because its Rhineland trade had to go thru another country to reach the sea. Rotterdam was made a free port to ease the pinch somewhat. But the new Germany, with dreams of world supremacy, felt too cramped and has gone far toward alleviating its condition.

The Guianas and Uruguay, separating former Spanish lands from Portuguese Brazil are the only genuine examples of buffer states in the Americas, notwithstanding the fact that, under our Monroe Doctrine we are more or less using all of Latin America to keep aggressive nations at a safe distance. Uruguay's excellent cattle land was coveted by both Brazil and Argentina when those countries were establishing themselves as independent entities early in the nineteenth century. Great Britain stepped in, and in 1828 Brazil and Argentina recognized Uruguay's independence, and Great Britain guaranteed it. If a need for Uruguayan protection arose, however, the United States, not Britain, would probably be the policeman who would settle the trouble.

Security of Buffer States

Many are the problems faced by the diplomats of a buffer state. The trick of playing one "power" against another is an old one and an effective one. Persia uses it with Russia and Britain. Rumania's precarious foreign policy of the last several years depended upon this device to keep Russia, Germany, Britain, and its small neighbors at bay.

The security of a buffer state depends upon the security it affords its neighbors by its existence between them. Most of them, consequently, pursue a precarious policy of neutrality. As soon as a buffer gives up a little of its neutrality in favor of one neighbor,

the other is likely to consider this an unfriendly act and may even take military action against the buffer. The exception is the small state that lies between two "powers" of unequal strength. In this case the small state is likely to be more closely allied with the stronger power. Its status as an effective buffer will be maintained as long as there is an appreciable differential between the strength of the two powers. Should this be broken, however, the buffer has another problem, to wit, can it afford to retain its alliance with one neighbor to the partial exclusion of the other? This problem was faced recently by one of Europe's hitherto successful buffers.

Belgium, which had always been more dependent upon stronger Britain and France than weaker Germany, was trying to shift its position to a more neutral one when it severed its close connection with the Allies in 1936.

A perusal of the series of events leading to Belgium's decision to act independently will be enlightening. Since 1921 France and Belgium had had an alliance for defense. Trouble threatened between Germany and France's ally, Russia. Belgium, fearing it might be drawn into the struggle because of its relationship with France, began negotiating with that country early in 1936 to revise the alliance. The new arrangement was signed on March 6; ironically, Hitler's army marched into the Rhineland the following day. France and Britain did nothing to stop this occupation of a demilitarized zone. The result was an increase in German confidence and Belgian uncertainty. Furthermore, Italy's conquest in Ethiopia had called forth nothing stronger than protests from Belgium's allies.

Finally, in October of the same year, Belgium's king told his people that they would have to be prepared to stand up for themselves, and his country began planning for an expanded defense program against all aggressors. Germany added its assurances of respect for Belgium's neutrality to those of Britain and France, even offering to aid Belgium in case of invasion. This was a far cry from the position Belgium had held as British and French buffer against German expansion. Little did it realize what its action would lead to. It undoubtedly made Germany's position stronger by the very weakening of its rivals' position. By this act, Belgium made itself a choice morsel coveted by both sides.

With Germany growing in strength relative to Great Britain and France, and in view of their indifference to that growth, Belgian diplomats decided it was time for their country to be more

nearly neutral. Hitler seems to have taken it to mean fear, however, and, with other like moves on the part of some of his eastern and southern buffer neighbors, he has been encouraged to spread his influence, by bluff and battery, to include practically all of Europe, and a good share of the rest of the world.

Buffer states, thus, being products of politics, exist only so long as they perform their political function unless they are imbued with the innate characteristics previously noted as comprising a natural buffer: barrier type terrain, poor transportation, and indifference to, and by, the rest of the world. But even these can be changed. Swamps can be drained, while mountains and deserts can be crossed by railroads, good motor roads, and aeroplane routes. These bring in outside influences and may drastically change the attitudes of the people, making them nationally conscious, and even expansion-minded.

Iran, becoming more nationalistic as a result of its realization of the value of its resources, may not function as a buffer for many more years. Siam, between British and French lands in southeast Asia, has for some time entertained ideas of expansion, and in this it has lately been encouraged by Japan.

In the event of a change of power balance there is likely to be a shift in external influence in a buffer state, or even the absorption of that state. Austria was set up by the Allies after the World War to act as a buffer between Germany and Italy. It served its purpose until Germany became strong enough to defy Britain and France. Then Austria was absorbed into the German reich. Czechoslovakia, also a buffer to prevent German, as well as Russian, expansion, was forcibly seized and partitioned, as was Poland some months later. Russia has recently "accepted" the three Baltic republics into the Soviet Union, ending the buffers that kept it from ice-free water in that region.

FUTURE OF BUFFER STATES

What is to be the future of the buffer states? It depends to a large extent upon the outcome of the present attack against Britain. The British have had a part in the establishment of practically every present-day buffer state. If Britain is the winner in the present conflict, buffer states may continue as an influence in international relations, tho they will probably be considerably modified, in view of the change in the status of Germany and that of France. In the event of a German victory, inasmuch as buffer states have been

very distasteful to it in the last twenty years, Germany will probably devise some new scheme for maintaining the prestige in world affairs for which it has been struggling.

Whatever happens, the problem of the world will remain the same. Economically, it is a unit; politically, it should be at least a unit of cooperation. The British used buffer states as a step in this direction, but as part of the world, the "have not" nations, did not benefit equally with the rest, the plan has fallen short of its goal. Many would-be world conquerors have tried to make it a unit by force, but all have been unsuccessful. No people who have had freedom are willing to release it, and they will rise up again and again to try to regain their freedom if it is taken from them. The United States, however, is proof that people of diverse origin and customs can live together peaceably. Perhaps the federal plan would serve to unite the world peaceably in an organization in which arbitration would be substituted for war.

But we can expect war and experiments with buffer states and the like until the world is educated to, or forced into, finding a more permanent solution for its economic and political difficulties.

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THE ANALEMMA

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On many school globes we find a curious 8-shaped diagram placed somewhere over the empty blue of the Pacific Ocean, which is likely to induce some pupils to ask inconvenient questions. This device is called analemma (ἀνάλημμα: a support, a sundial), and the questions raised about it need not be inconvenient because its principle can easily be understood and it can be used as a key to open up some lesser-known chapters of mathematical geography.

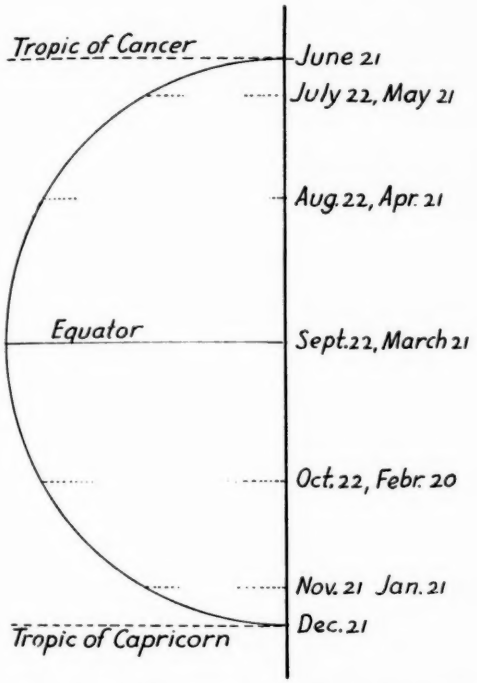
Definition. The analemma as applied to globes is a line which connects the points on the Earth's surface where the sun is directly overhead on each day of the year when the local time is twelve o'clock on the meridian upon which the analemma is centered. Identical analemmas can be drawn on any meridian.

The North-South Motion. The migration of the location of the vertical rays of the sun is dependent on two major reasons. The north-south component of the analemma is due to the declination of the sun. The sun is directly overhead at noon of June 21 on the Tropic of Cancer; it will be on the equator at the time of the September and March equinoxes, and on December 21 it will be on the Tropic of Capricorn. This variation is due to the inclination of the Earth's axis to the plane of its revolution, called the ecliptic, and is well understood in early stages of geographical instruction. The up and down migration of the vertical rays of the noonday sun is not even along the meridian; it will travel slower near the tropics and faster near the equator, as shown in Fig. 1.

The east-west component of the analemma is due to the Equation of Time—the difference between true solar time and mean solar time, more commonly called local time, or to put it simply, the difference between the clock and the sun. To understand this difference we have to consider certain facts about the motions of the Earth and the various time measurements dependent on them.

Sidereal Time. Our measurement of time is based on the fact that the Earth turns around its axis with a uniform speed. The time of one complete revolution, that is, from the time a star is exactly south of us until we see it exactly south again, is a sidereal day—the time unit used by astronomers. All sidereal days are equally long and last about 23 hours and 56 minutes of ordinary time.

Solar Time. As our life is regulated by the position of the sun and not the stars, the original basis of our time measurement is the solar day, the interval between two noons. As the Earth rotates counterclockwise looking down at the North Pole and revolves around the sun also counterclockwise, it obviously takes longer to



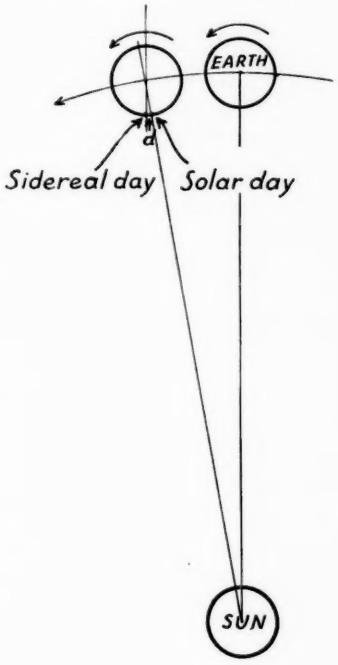


Fig. 1 (Left) The vertical rays of the noonday sun migrate up and down the meridian at an unequal rate.

Fig. 2. (Right) The time interval between two noons (solar day) takes about 4 minutes more than a complete rotation of the earth (sidereal day).

reach the next noon than a sidereal day, as seen in Fig. 2. The difference "d" is about four minutes of time.

Mean Solar Time or Local Time. If the Earth's axis were perpendicular to the ecliptic and the Earth would revolve around the sun with even speed on a circular path, all solar days would be equal. This is the kind of time which our clocks were showing before the introduction of the standard-time system and it is called mean solar time by astronomers or, commonly, local time.

True Solar Time. Our previous assumption, however, is not true. The Earth's axis is not perpendicular but oblique to the ecliptic and the Earth does not move with even speed on a circular

path, but the orbit of the Earth is an ellipse with the sun at one of its focal points, and its speed varies so that the line connecting the Earth and the sun sweeps over equal areas in equal time intervals. To do that, the Earth has to move faster in January than in July. It takes a longer time also to make up for a larger distance "d" of Fig. 2 in January than it does in July. At the time of the September and March equinoxes there is on this account no difference.

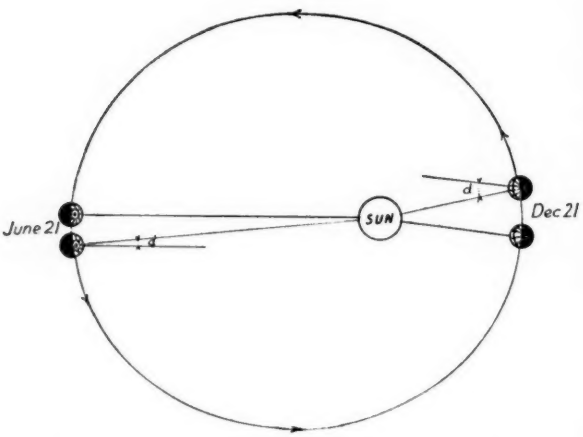


Fig. 3. The earth moves fast in December and slow in June, thus "d," and with it the solar day is the longest in December.

There is also another reason which makes the solar days vary thru the year, and this is the inclination of the Earth's axis. Let us assume again that the Earth goes around the sun with uniform velocity and "d" of Fig. 2 is the same all year. In the September and March position the Earth has to rotate only the angle "α" to bring about the distance "d" required by the Earth's progress along its orbit, thus in the time of the equinoxes the solar days will be shorter. In December or June the difference "d" has to be made up by a longer rotation, as shown in Figure 4. Thus the true solar

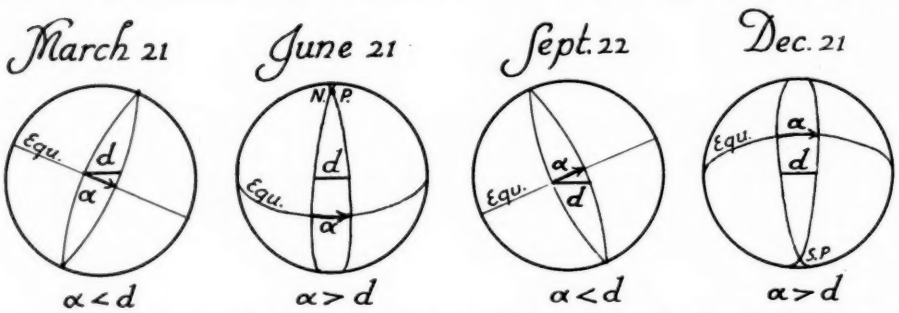


Fig. 4. The four cardinal positions of the earth as seen from the direction of the sun. It takes less additional rotation in March and September to make up for "d" (Fig. 2) than in June or December.

day is shorter in March than the mean, and longer in July; again shorter in September and longer in December. The variation of the length of the true solar day due to both causes is shown in Figure 5A.

Equation of Time. The variation in the length of a single true solar day is not large; it can be expressed in seconds. The difference, however, accumulates day by day and reaches several minutes, as shown in Figure 5B. The two effects sometimes add up and sometimes counteract each other and their sum is the Equation of

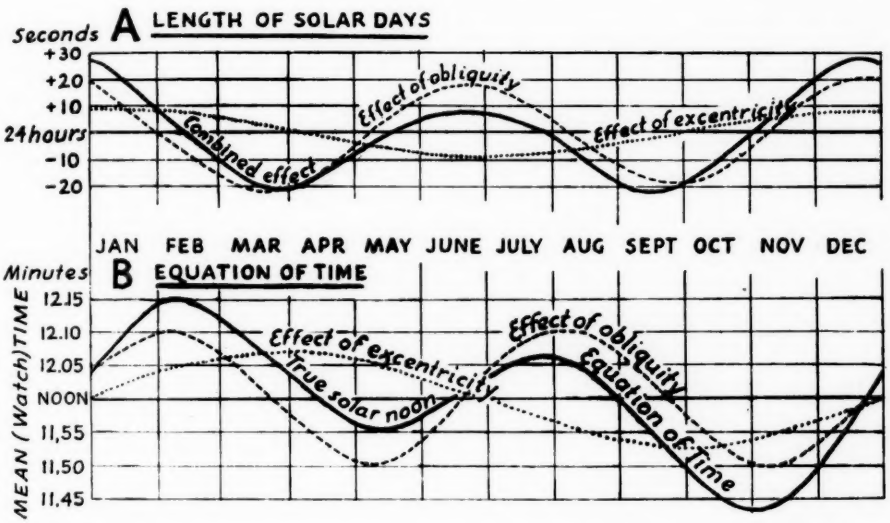


Fig. 5 A. The true solar day on December 21 is 26 seconds longer than 24 hours. 5 B. Due to the cumulative effect of the variation in length of the true solar days the clock lags behind the true solar time with 16 min. 21 sec. on November 2.

Time, the difference between the mean solar time, as shown by a watch (registering local time) and true solar time. Thus the sun is in noon position at $11^h43' 39''$ of local time on November 2.

The Analemma. If we apply the values of the Equation of Time as east-west components to Figure 1, we arrive at the 8-shaped figure of the analemma as we see it on globes (Figure 6). As the vertical rays of the sun travel 15° in one hour or 1° in four minutes of time, our horizontal scale is given. The Earth rotates from west to east; thus when the sun is slower than the clock the sun will be overhead to the west of the meridian at the time of local noon and vice versa. This is true on any meridian, and the fact that the ana-

lemma is usually placed on the Pacific at the 120° W. meridian is only because here it interferes least with islands and continents. The analemma is incorrectly drawn on many globes. It should not be symmetrical on the two sides of the meridian. For ordinary classroom demonstration, however, the mistake is negligible.

The Uses of the Analemma. The analemma is far too crude a device to be used in navigation. It was used, however, for correcting the clocks in old times when each place had its own local time. This was done by observing the exact moment when the sun's center passed the north-south line (the meridian). By adding or subtracting the amount required by the Equation of Time local time could be determined. The analemma could also be used for calculating the length of the noonday shadow of a vertical rod or church steeple. From Figure 7

$$\alpha = \varphi - \beta \text{ and } \tan \alpha = \frac{s}{r} \text{ from which}$$

$$s = r \tan \alpha$$

Reversing the problem from the length of the shadow the latitude can be obtained: $\varphi = \alpha \pm \beta$

α means the zenith distance of the sun and β the vertical component of the analemma in degrees measured from the equator. β has to be added in summer and subtracted in winter. At the time of the September and March equinoxes β will be zero.*

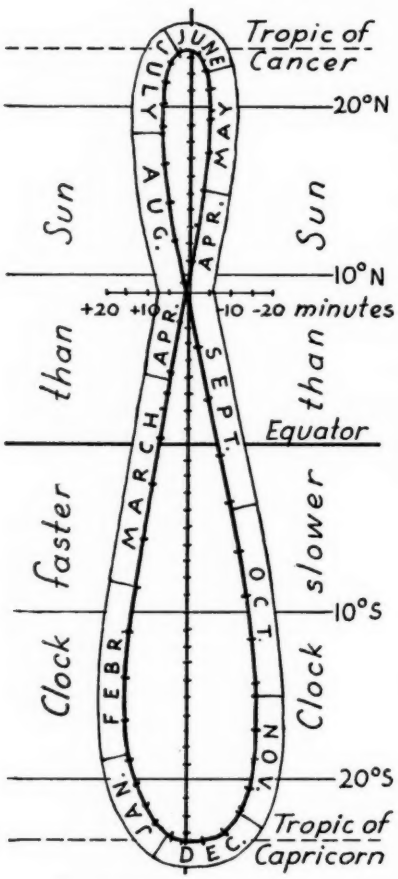


Fig. 6. The analemma on rectangular projection. Note that the line is not symmetrical on the two sides of the meridian.

Use in Schoolroom. The chief use of the analemma in the schoolroom is to enable the teacher to set up a globe at any day of the year at any hour exactly in the position in which the Earth happens to

* Teachers unfamiliar with triangulation may use graphic construction as in Fig. 7.

be. By doing this at different hours and at different seasons the progress of the day and the year can be most convincingly demonstrated. The following sequence is only a suggestion; several methods can be used with equal success.

(a) Copy the analemma from your globe preferably on transparent paper and paste it over your own meridian with rubber cement so that it can be easily removed again.

(b) First let us consider the situation at noontime. Place the globe where the sun shines on it at noon and during the morning hours, and tilt the globe's axis until it is parallel with the Earth's

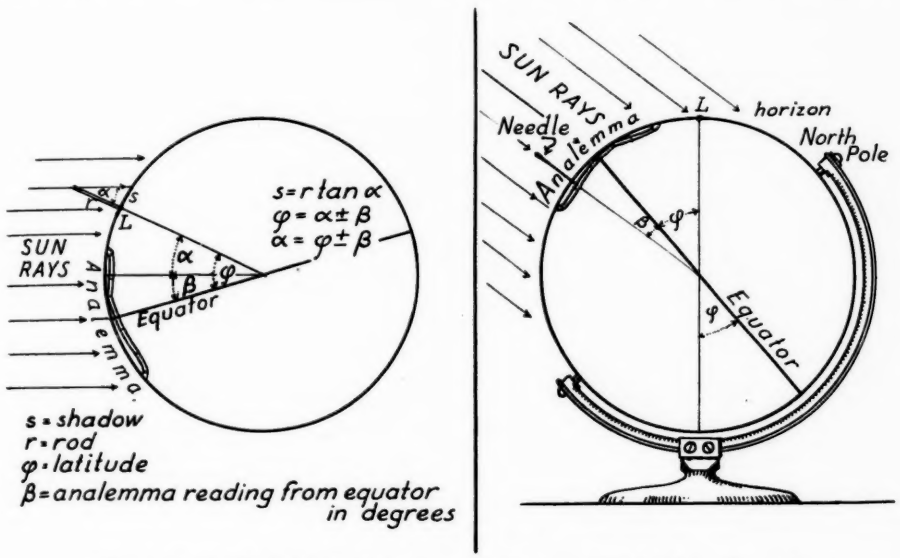


Fig. 7 (Left) Calculating the length of the noonday shadow of a rod.
Fig. 8 (Right) Setting up the globe so that it should reproduce the actual position of the earth at a definite date and location.

axis. In Figure 8 the angle φ designates your latitude and L your location. In this position the Earth's axis points directly to the celestial pole near the Polar Star. Turn the globe around its axis so that your meridian is N.-S. which will bring L exactly to the top of the globe. This makes the horizon of L horizontal and you have reproduced your own position at noontime.

(c) Stick a long needle perpendicularly in the analemma on the spot which indicates the day of the demonstration. If the position of the globe is correct the shadow of the needle will disappear exactly at the time of local noon.

The time of your local noon can be found by adding four minutes for every degree to your standard time if you are east of the standard meridian, and subtracting them if you are west of the standard meridian. Standard meridians are

for	Eastern Standard	Time	75° W
	Central	"	90° W
	Mountain	"	105° W
	Pacific	"	120° W

(d) If the geography period comes at some time in the morning get your local time at the beginning of the class. Place the analemma on the meridian east of your own, which has the sun overhead, figuring fifteen degrees of longitude for each hour. For instance, at 10 A.M. local time the analemma should be on the meridian 30° east of yours. Stick the needle in the proper date on the analemma, and if your figuring is right it should not cast any shadow. Forty minutes later the needle should be moved 10° westward to have no shadow. The moving of the needle can be repeated during the day to illustrate the apparent motion of the sun, assuming a stationary Earth. This assumption was held to be true by everybody until the time of Copernicus.

(e) Keep the globe in this position and darken the room. Hold a flashlight, or lamp representing a stationary sun, at considerable distance from the globe so located that the shadow of the needle is reduced to zero. Turn the globe around its axis from west to east and convince the students that identical shadow conditions can be obtained as before by this new idea—which, as proven by other facts, is the true cause of the recurrence of day and night. This demonstration may help the pupils to accept the idea of a rotating Earth and a stationary sun, so contrary to common sense observation.

The demonstration of the progression of seasons involves the repetition of the previous setup at different months of the year. Altho there is no difficulty in doing this, the teacher's schedule usually demands the demonstration of the seasons at a definite time and for this reason a somewhat different process is recommended.

Let the plane of a table or the floor represent the ecliptic and place a lamp in its center representing the sun. Tilt the axis of the globe 66°30′ to the horizontal. Place the globe in its December 22 position in reference to the lamp and turn the globe around its axis until your own meridian is in line with the lamp. Stick a perpen-

dicular needle into the southernmost point of the analemma (placed on your own meridian) and if your setup is correct its shadow is nil. Thus you reproduce your own position at noon on December 22 except that your own horizon will not be horizontal unless you happen to live on the Arctic Circle.

Lift the lamp until its rays are perpendicular to the equator representing the time of the equinoxes. Lift the lamp still higher until its rays are perpendicular to the Tropic of Cancer; then lower it along the same path. This is the way we see the noonday sun, sometimes lower, sometimes higher above the horizon. You may stick the needle in the analemma at the date of the demonstration and let the lamp shine on it perpendicularly, reproducing the exact shadow conditions of the day.

Now place the lamp back on the table and carry the globe around counterclockwise, so that its axis remains parallel to itself, and note that identical shadow conditions can be obtained by this idea of a stationary sun and a revolving Earth which, proven by other facts, is the true cause of the seasons.

Besides the demonstration of the progression of the days and seasons the teacher may make use of the analemma at any stage of geographic instruction. For instance, speaking of the Eskimos, or the Indians living in the Amazon jungle, it can be demonstrated how the sun will shine on them at various seasons. Another interesting use of the analemma is to ascertain the time of the day from the position of the sun. This, however, brings us to the problem of sundials, which will be discussed in another article.

GEOGRAPHY AND THE COMMUNITY

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CHANGING COMMUNITY SPIRIT

Life in our times is labeled by J. B. Priestley, an English author, as a "car-and-wireless" life. He points out that, in contrast with their parents and grandparents, many people today have no "deep sense of being a member of a community." They are "eating and sleeping and trying to enjoy themselves in a place with no . . . feeling or responsibility for that place. . . . No vision of any kind haunts them. . . . Because they are poor in spirit themselves, they do not insist upon a nobler quality of national life."

Mr. Priestley's statement of the situation may be an exaggerated one, but everyone who is willing to face facts recognizes in it a core of truth which challenges all of us concerned with teaching. How, with times as they are, can we give to those whom we guide a vision which haunts them, which deepens their sense of being a member of their community, and which leads them to insist upon a nobler quality of national life and a community spirit among nations?

It is the purpose of this discussion to consider a few *geographical experiences with one's own community* which provide food for thought in answering those questions. A consideration of each of various other types of geographical experiences in their relation to the community would be equally appropriate, but the discussion is thus limited for the sake of brevity and concreteness.

Playing with cars, radios, and numerous modern mechanical gadgets may take up much of our attention that otherwise we would give to more fundamental matters, but perhaps we would tend to be less vitally interested in our community than our grandfathers were even if we were without such diversions. A fortune which one inherits and has had no part in accumulating means much less to him as a rule than one which has resulted from his own efforts. Interesting as stories of the accumulation of the inherited fortune may be, they cannot make one appreciate it as much as he would if he had participated in making it. If one can live in plenty without exerting himself to earn, he tends to have little incentive to accumulate earnings thru his own labor. We inherit what seem to many of us to be ready-made communities. Just as with a ready-made for-

tune, we tend merely to draw on the opportunities they afford for pleasant living, opportunities which we have not struggled to create. The vision which haunted those who *did* so struggle, and who created what we now draw upon so freely, does not haunt *us*. We take the community for granted as something accomplished. We listen with pride to thrilling episodes in the history of that struggling, but cannot appreciate the results as could those who participated in it. As with a fortune, we tend to say, "When there is so much to enjoy as it is, why struggle to create a community of our own making?"

As one thinks along such lines, it seems that instead of lacking vision and incentive with regard to our community because we have cars and radios, we may be trying to help fill with those mechanical devices a feeling of emptiness in us which results from lack of such vision. Vision which stirs one to action for his community comes from seeing a potential *future* community which is better than the present one, a future community the creation of which seems worth a struggle.

There has been a strong recent tendency in education to center attention on various specific aspects of community life which can be improved. As a result some citizens have as their vision wage reforms, others improvement in government, slum clearance in cities, the decrease of crime, the beautifying of cities, and so on. Excellent as these are in themselves, they are not enough. Much thought and effort can be expended along these lines without developing insight into, and a deep regard for, the community as a whole. *Some of that thought and effort leads to erroneous conclusions and unfortunate action because of failure to see the whole.* Such considerations as the foregoing should be kept in mind as we think about the geographical experiences to be described.

THE PARTICULAR COMMUNITY TO BE STUDIED

To be concrete and specific in our thinking, let us consider a specific community—an incorporated village of approximately five hundred people in central Illinois. When one thinks of it geographically, he thinks first of the particular group of man-made (or as we say "cultural") landscape features which meet the eye as one actually looks at that portion of the earth's surface which this community occupies. He notes the particular types of land use which those features evidence. These land uses indicate to him the

particular function or functions which that community is fulfilling in the larger order of a society based on an exchange economy. He thinks of the site in terms of its suitability for use in the successful fulfillment of those functions. Are there maladjustments in land use there? Are there potentialities of profitable land use which apparently have been unnoticed? Is it overcrowded in terms of the number of people who can be supported there on a reasonable level of living? Or do opportunities exist there for increasing the amount of support which the site can afford for people and for the institutions which our way of living has led them to cherish? Looking upon the village site and the uses now made of it, the geographer is, as Dr. Bowman expresses it, a "capacitator" with regard to its potential population-supporting capacity. The dream or vision of a community in complete harmony with the potentialities its particular site affords thus may begin to haunt one.

Approaching the village in question as we drive along the paved state road which runs thru its Main Street, we see ahead a cluster of residences, above the roofs of which loom an elevator and the spires of two churches. Driving along Main Street, we note, besides the buildings mentioned, a township high school, a grade school, two repair garages and filling stations, a bank, a doctor's office, a little town hall, a restaurant and soda fountain, a post office, two grocery stores, a railway station, and not far from it, two pens from which animals can be loaded into stock cars.

A quick survey of the remainder of the village reveals that there are only three other streets, one forking at an acute angle from the western end of Main Street, one crossing Main Street at right angles near its central point, and a third short street paralleling Main Street. All but the last mentioned are parts of highways which run thru the countryside. The residences, most of them frame houses well painted and set in neat lawns, vary in size and appearance. None would be called pretentious but there is no landscape evidence of poverty. A few houses are in process of building and a few others obviously are new, but the architectural styles of the vast majority, as well as the size of the elms and maples which shade them, indicate that the village has had approximately its present size and pattern for more than half a century.

In the light of these simple landscape observations, we classify this community as a farm-trade center developed on a "cross roads" site several decades ago and still fairly prosperous. In its

seeming prosperity, it differs markedly from several centers obviously designed to fulfill the same type of function in other crossroad sites in the surrounding farm region. Moreover, while the services indicated by the landscape features observed might well support some four score families, the number of residences indicates that half again as many families are being supported. What accounts for these facts? The answer is to be found chiefly not in the characteristics of the site itself, but in the location or situation of that site with regard to the larger area of which it is an integral part. Its situation with reference to that larger area and to the distribution of land uses therein is such that, as hard roads and automobiles lengthened the distance over which grain could be hauled at reasonable cost, its service area naturally was increased, with resultant loss, however, to some of the near-by centers which had been needed in the horse and wagon era, and to some of its own services. Increase of its service area enabled it to be more productive, as a whole, in the matter of social and retail commercial services, a fact which tended to attract to it not only some retired farmers but also a few people from the city of some 75,000 people eight miles to the northwest of it. Detailed study of the many factors (local, regional, national, and international) which are involved in determining its potentialities in the matter of population support would be required in order to reach a final conclusion as to its chances for survival at its present size and on its present standards or its chances for *sound* growth, but, tentatively, one who has a general geographical understanding of those factors concludes that probably the suburban function may well become far more important than at present. Indeed, it would seem that it might well become so at once if it were not for either lack of geographical insight on the part of its present inhabitants or their unwillingness to co-operate to the extent which would be necessary in order to help the village thus function.

PURPOSE AND PUPIL BACKGROUND

With this general overview in mind, we turn to a consideration of practicable means of helping school children of that community realize the geographical significance of the things they see about them every day, to the end that they will be less blind than otherwise they would be to the potential future of their community and its relation to their own chances of earning a reasonable livelihood there.

Since the particular classroom work which could be done would depend in part on the level at which it is introduced, it is necessary, in order to be specific, to discuss procedures in terms of some one given level. With a single illustration of possibilities, plans for introducing such experiences at any given level other than the one chosen could be made readily by modifying appropriately those thus presented. For various reasons into which it is not necessary to go in this discussion, children are not ready to profit reasonably from the particular types of geographical experiences involved before they have had others of the type indicated in recommendations for fourth grade or "first stage" work in the Yearbook entitled "The Teaching of Geography."[1] Assume, then, that the following experiences and activities are to be provided for children in the early part of their fifth year in school.

INTRODUCTORY MAP EXPERIENCE

Maps of their village are introduced of such size that each building can be represented on them by an individual symbol. They may be enlargements of the small section of the topographic sheet of the area which includes symbols for the village. Each child is given a mimeographed enlargement 8″ by 8″—four inches to the mile. On the wall or blackboard is an enlargement 32″ by 32″—sixteen inches to the mile.

By noting the relation of the symbols for buildings to those for the railroad and streets, children in class discussion identify symbols for the public and business buildings. As each is identified, the teacher labels them on the large map, marking the elevator "E," for example, the bank "B," and so on. Each child finds for each building thus identified the corresponding symbol on his own map and puts a dot in each to help him differentiate symbols for all such buildings from those for residences.

Each child's individual problem is then to find on the maps the symbol for the house in which he or she lives. If he lives in one of the newer houses there will be no symbol for it, and he can indicate *tentatively* the place on the map on which he thinks it should be added. As soon as he is sure he has identified his own house symbol correctly, he colors it red on both his own map and on the large map. The class map (the large one) now shows the business and public buildings and the residences of all or most of the class members.

[1] Thirty-Second Yearbook of the National Society for the Study of Education.

SIMPLE FIELD WORK

It remains to discover all the additions to or subtractions from the map which should be made in order to bring the map up to date, a problem which involves simple field work. Mary and Helen, for example, live near the end of North Street, and offer to observe carefully, map in hand, all the buildings along that street from Mary's house to the northern limit of the village to find what houses, if any, are not represented on the map and to find what symbols, if any, on that part of the map should not be there. Each child thus checks some small portion of the map, an activity which should require not more than half an hour. It is all to the good if some parts of the map at least are checked by more than one individual or small group working separately. From these simple field reports the needed changes are listed.

Incidentally, it should be noted that this exercise resembles in essence a blank-filling or error-finding study guide. Instead, however, of reading verbal descriptions or explanations in order to learn how to fill correctly blanks left in sentences, or to correct the errors made in some of the statements, children are observing landscapes in order to fill "blanks" and find errors in the map representation of those landscapes. The value of the device is so great that it is advisable to leave off a few symbols even if one has a completely up-to-date map to use, in order to give the children the motivated field experiences involved in filling the blanks. Nothing does more to help one look thru maps to the realities they represent. Unless one can thus translate map symbols into visual imagery of landscape features, he is seriously handicapped in geographical work with any given region.

Having found what changes in the map are needed, there still is the problem of making them as accurate as practicable. The class goes with the teacher to look at one of the buildings which is not symbolized on the map. They compare the size of this building with that of the nearest one to it which is symbolized and draw in the symbol accordingly. It need be only approximately accurate, for it is important that the child should not become discouraged over difficulties of converting distances involving tens of feet into small fractions of inches. What eleven year old children can be helped to discover readily by their observations and simple measurements are such facts as that the building is approximately the same width as the adjacent one, about as far from it as the building is wide, the same distance from the street as the other one is, but that it is only about

two-thirds as long. At higher levels, the work could be done with greater accuracy. After this demonstration class exercise, the making of each of the other changes can be assigned to individual committees. One becomes even more able than before to see thru maps to actual landscapes after he has thus translated for himself real landscape features into map symbols, just as one reads with increased understanding as he learns to express ideas in written sentences of his own composition.

A Basis for Deeper Insight

By representing as a compact whole many actual things a child sees in his community (things which he could see *all at one time* only from an airplane, for example) the map itself stresses the idea of the community *as a unit* of which those familiar objects are integral parts. Thus far, however, the unity the map helps one feel is what might be termed spatial unity, that is, unity suggested by close proximity, one to another, of those objects. They would, by reason of their nearness together and their arrangement, blend into a single irregular spot on the ground—a spot clearly distinguishable from surrounding land, as one looked down on them from some very high altitude. Such an impression of spatial unity, tho basic, is but an initial step in developing insight into what may be termed "functional unity." Suggestions and questions, of which the following are a few examples, guide children's thought and activities in such a way as to help them to develop an appreciation of the community as a functional unit, in the functioning of which each and every landscape feature and every inhabitant plays an integral part. (Words "put into the mouth" of the teacher are indicated by quotation marks.)

Seeing Meaning in Buildings and Their Placement

Count the number of residences on the completed map, and estimate the number of inhabitants by multiplying the number of houses by four. Check this estimate by referring to census figures, if they are available, or by interview on the part of one or two children with the appropriate town official.

Find, thru the interview of a selected individual or a small group of pupils with the assessor, the assessed *total* value of village real estate upon which taxes are levied. (This total figure is bound to be impressive. Any mention of the value of individual holdings should be carefully avoided, of course.)

"Much money, then, had to be earned in order to build this village of ours. Much must be earned in order to keep it in repair, to improve it from time to time as we can, and to provide food, clothing, and other necessities for all of us. What buildings represented on our map would suggest even to a stranger some of the kinds of work people in our community do to make a living?"

After adequate class discussion initiated by a question such as the foregoing, color the elevator, stock pens, and railroad station black on the maps, to make those features which indicate shipping work, so important to the community's existence, stand out clearly. The buildings which suggest retail trade of various types are colored green, for example, and buildings which suggest teaching, and other professional, governmental, or social work, a third color. (The *significance* of the various types of buildings thus is shown *on the map* which is constantly in view.)

"Buildings suggest kinds of work because the size and shapes of buildings suitable for one kind of work are not suitable for various other kinds of work. Why wouldn't it be convenient to have a store cut into as many rooms as there are in a residence? Why is the elevator so much taller than any other building in our village? It would not have to be so tall just to provide storage space for the collected grain." (Many people who have seen elevators almost daily do not realize that loss of wheat in transit is caused from spoiling if the grain is not sufficiently dry and that in elevators it is *elevated* to a considerable height and dropped into bins so that it is dried as it falls just as things in the air are dried by wind. A visit to the elevator has some meaning in the light of such knowledge. Moreover, it is clear that the machinery required is too expensive to be installed on individual farms but not too costly in proportion to the value of its work when a large number of farmers are thus served. One sees in it a concrete example of interdependence and need for co-operation and perhaps begins to think about cost and appearances of other buildings and equipment in terms of their specific services to the community.)

"Would it have been sensible to build the elevator where the Methodist Church stands?" (This question introduces a series of questions, answers to which bring out reasons for the placement of buildings of various types and the "pattern" of the village. Advantages of the crossroad site become apparent. A gap or break in the line of residences on Main Street and the short one paralleling it are seen to coincide with lower lands along a little creek which are subject to flood.)

Pupil Activities Concerned with Climate and the Community

Consider the cost of floods to the village and the relation of floods to weather conditions.

"Suppose we had several years one after another so dry that farm crops in our vicinity were ruined. Would that affect our banker? Our grocer? Each of us? How? Why?"

Compile weather reports for critical months. Make grafic representations which show differences between actual temperatures and rainfall in different years and "average" rainfall. One device which children like to use in showing rainfall differences, and which motivates manual construction, is that of a rack of wire or wood which holds in upright position twelve test tubes, one for each month in the year. On the front of each test tube is glued a "ruler"—a strip of paper an eighth of an inch wide on which inches and fractions of inches are marked. If three inches of rain fall in July, fill the July test tube up to the three inch mark with water to which a little bluing has been added. Show similarly rainfall in other months. With five such racks for test tubes and sixty tubes, one can show at one time rainfall during the driest year on record, during the wettest year on record, during the past year, and during the part of the current year already past. The emptiness of the remaining ones for the current year is in itself a challenge to children to measure showers as they occur and see how near their own measurements for a current month come to the measurements made by experts. The securing of data for past years may motivate discussion of the Weather Bureau Station in the nearby city, and the visit of a class delegate or delegates to that station. The expense of maintaining such a station is seen to bespeak the great significance of weather in the work of the community. Such "living" or permanent grafs can be used over and over again in comparing rainfall of any given place with rainfall at home and in other places.

Most girls prefer to make, instead, permanent temperature grafs. On a sheet of cardboard 36″ by 18″, for example, draw a row of twelve thermometers, leaving a blank column three-eights of an inch wide for the tube above the bulb in each, and marking the degrees at the left of that column and outside it. Cut in the cardboard horizontal slits the width of the column, one at the top and one at the bottom of each column. Sew together a half yard of red ribbon three eights of an inch wide and a half yard of white ribbon

the same width, joining them end to end. Run the loose red end thru the lower slit and the loose white end thru the upper one, letting the ends hang down behind the cardboard. If the average July temperature was 72°, the ribbon can be pulled so that the joining comes at the place where the marking at the side is 72°. By pulling on the white end of the ribbon at the back the red part of the column rises higher just as does the mercury in a thermometer. By pulling on the red end which dangles at the back of the cardboard, the red part of the column is lowered, just as the mercury is lowered in the thermometer. With five such charts, comparisons of temperature similar to those made for rainfall can be shown clearly.

Class delegates interview rural delivery mail carriers, the grocers, the elevator manager, farmers or retired farmers, the filling station attendants, the soda fountain clerk, etc., to find what difficulties and costs in their work are related to weather and seasonal changes. (It is of great significance to realize that dry, hot days which are *hard* on village gardens are *helpful* to the soda fountain owner, and to note similar contrasts. Expression of such contrasts may take the form of cartoons if there are members of the group who like to draw.)

SOME OTHER PROBLEMS INVOLVED IN COMMUNITY WELFARE

In similar ways, costs of bridging, of cuts and fills, of tiling, and the like are seen in their relation to topography on the one hand and service to individuals and the community on the other hand.

Thru interviews, children collect data about the longest hauls made to the elevator, the approximate number of farms served, the average number of acres required to grow wheat enough to fill a railroad car, and other information which helps one realize the size and shape of the area served.

"Are the service areas of the grocery store, the school, the churches, the same as that of the elevator? If not, what reasons can we find for the differences?"

If practicable in terms of amount of information gathered, make maps which show the service area or areas approximately.

"There was once a dry goods store here. Would it be wise to open another?" (Discussion reveals the effect of the coming of the hard road on the redistribution of various opportunities, and

on the entrance of city competition in the case of certain commodities.)

"On the other hand, a very large new flour mill in the city has affected us favorably here. How? Why?"

The dependence of the village on the nearby city for telephone service, electricity, and water supply is discussed. "What facts help to make possible the securing of these services? What part do these services play in the support of people in the village? What supplementary water supply is used? Why are the fire insurance rates paid by villagers high in comparison with those in many other communities?"

"To make our village even more attractive in appearance than it is would take money, effort, and co-operation. *Might* more people than are here now be able to earn a living *after* it has been thus beautified? If so, how? We cannot be sure that it *would* help as we have suggested it *might,* because we have seen only a few of the many things which affect us. Some other things must be studied by experts before we can be sure. As we learn from time to time about other parts of the world, we will find that changes in places as far away as Europe and China also affect us here, just as changes in our nearest city and in surrounding farm lands do. The more we understand about communities the world over, the more we shall be able, with the help of other information which experts can get for us, to make the best of our opportunities here both for ourselves and for our community."

LASTING VALUES

Thinking, as teachers, about exercises such as the foregoing, is it not difficult to conceive of a group of children who could come thru such experiences without something more of a feeling of being an integral part of a community than they otherwise would have? Will they not tend to be more nearly able than are various Chambers of Commerce of today to see that a better village or city may mean in many cases a smaller one, but one more sound and substantial because it is more nearly in harmony with its *actual* potentialities of population support? Is there not more probability than otherwise there would be that some of these children will come to have a vision of a better adjusted community? Is there not, in such a vision, incentive toward struggling for a better national and world community?

SOME PROBLEMS IN WESTERN HEMISPHERE SOLIDARITY

BY THE EDITOR

We are frequently asked: How may teachers of the social studies use geographical data in conjunction with historical, social, and economic materials, in developing a better understanding of world problems? At present we are confronted with the tremendous task of securing Western Hemisphere solidarity—especially Latin American cooperation. Few doubt the desirability of having the nations of the Western Hemisphere present a united front to the rest of the disordered world. From our own standpoint such solidarity is of prime importance. It is vital to our own national defense and to that of the whole Western Hemisphere. Here is a live, vibrating, subject for the wide-awake social studies teacher. The subject offers an excellent opportunity to show that your teaching materials *function* in the living problems of the nation and of the world. It is not enough merely to give your students a history of the past. Our students, and people in general, are in great need of a better understanding and appreciation of present problems that confront us and the people of Latin America. The JOURNAL has already published numerous articles bearing on these problems and will publish more. This is being done as a service to both teachers and students. This editorial merely points out a method of attack. Its purpose is to indicate the type of data needed; to raise some of the perplexing questions that need careful study; and to hint at the change in thinking that must come about if solidarity is to be attained. Only our relations with Latin America will be considered. However, our relation with Canada presents many problems which may be approached by a similar method.

At the outset we should recognize that Western Hemisphere solidarity can be attained, either, by dictatorial military control by the United States, after the Hitler pattern, or by cooperation, in which each country maintains its full independence and cooperates because it *believes* cooperation is to its own *self-interest.* The military method is repugnant to us and may be discarded. Hence, the problem becomes: How may we secure voluntary cooperation?

WHAT IS THE WESTERN HEMISPHERE?

First, let us ask what is included in the geographical term—Western Hemisphere? That term sounds simple. Does it include

Greenland and Iceland? Greenland is so near Iceland that its highlands are visible on a clear day. Should the boundary line extend to the center of the Atlantic, reaching from the North Pole to the South? How far out in the Pacific should we extend the Western Hemisphere since our Alaskan area extends to within a few miles of the coast of Asia? Are the Hawaiian Islands, more than 2,000 miles out in the Pacific, a part of the Western Hemisphere? Altho the Western Hemisphere has never been definitely delimited, we would probably include Greenland, Iceland, and Hawaii as a matter of national defense. If Iceland, now occupied by Canadians, is included then the Germans have already raided the Western Hemisphere. What are we going to do about it?

POPULAR CONCEPTS

In such a study it is always desirable to examine some of our popular concepts that need revision. We appear to believe that Latin America accepts the Monroe Doctrine whole heartedly, and that it is a mutual understanding instead of a policy set up and enforced by the United States. We assume that democratic-republican forms of government exist thruout Latin America and that official sympathy is wholly with that type of government. We take it for granted that all political leaders in Latin American countries are opposed to any form of monarchial or dictatorial rule. We seem to think that Latin America is a homogeneous area—economically, politically, culturally, and geographically.

Actually, the political ideals of the American Revolution were never really adapted to the economic, social, and cultural status of either the great body of Latin American people, or most of their leaders. Much of their intellectual and scientific inspiration came from Madrid and Paris, and in recent years, from Berlin and Rome. Few genuinely democratic governments have ever been securely established. Dictatorial governments have thrived, and continue to thrive. This means that the personal sympathy of many leaders is with such types of government, and that they are likely to embrace the idea of Western Hemisphere "solidarity" only if they believe it offers the best chance of holding their control. In turn, *we* have maintained opposition to friendly trade relations, and an attitude of aloofness—in fact even contempt.

We also continue to think of war as it was conducted twenty-five years ago. Total war of aggression today operates in a so-called peace time, as well as in an actual period of military conflict. Such

wars are carried on by the extension of credit that places an industry under control of a foreign government; by censorship of news; by printed and radio propaganda; by fifth column activities designed to divide a people and to weaken them, to sabotage competing enterprise, and to produce disintegration within. The financial credit scheme is well illustrated in the expansion of airplane service by Germany in South America. It now controls, either by ownership, or credits and operation contracts, nearly twenty thousand miles thruout the continent of South America. Some of these lines are obviously political since they operate in regions that do not produce revenue. How can such methods of penetration be met by us and secure unity, and assure national defense?

Further, we must face the disagreeable fact that the growth of powerful military nations, forming and controlling powerful economic trade units, has doomed the freedom of small nations and of free enterprise among individuals in those nations. It is especially difficult for us to realize that this revolutionary change has taken place. We do not want to believe it. Today small nations are forced to function within the sphere of the large powerful units, in order to sell their products. This makes political penetration and control relatively simple, and pressure can be brought on the small nations to force concessions and compliance. Theoretically, this should promote solidarity among the small and weak nations of the Western Hemisphere. Will it?

With this background in mind let us examine some of the problems that tend to prevent unity and that must be faced.

GEOGRAPHICALLY DIVERGENT

Geographically North and South America have highly divergent human-use regions. Nearly all of South America lies east of a north-south line passing thru New York. Ships trading with Argentina and southern Brazil pass around Cape Saint Roque—the eastern bulge of the continent; so do ships from Europe whose sailing route is only a few days longer. The United States has distance advantage in northern and western South America, but that advantage may be cancelled by differences in costs of operating German-Italian vessels and vessels of the United States. In addition, German-Italian ships are commonly subsidized as a means of gaining, not only trade, but political influence that leads to control.

Most of northern Latin America is tropical and produces many products that we desire. In turn it wants our manufactured products but has a sparse buying population. Much of western South America is arid but has valuable minerals to exchange for our products, tho it has few buying people. Southern South America—beyond Cape St. Roque—is sub-tropical and temperate. With the exception of coffee in Brazil, most of its products compete with ours in the world market and are wanted by Europe.*

TRADE RELATIONS

We must remember that people everywhere live by producing. They satisfy their wants, above mere necessities, by producing and trading a surplus with other pople of the world. This means that Latin American people must be able to sell their goods. We usually forget that trade means exchange of goods. We want the other fellow to buy our goods even tho we put up a high tariff wall to keep his goods out. Is it possible for us to change our thinking on this subject?

Let us consider this problem of trade relations, since it is one of the more important factors affecting Western Hemisphere solidarity. For more than a decade the United States has purchased about a third of the total exports of Latin American countries and sold to them about the same proportion of their imports. We have been their best single market and their principal source of imports. The United States and Great Britain together have purchased nearly half of what Latin America had to sell and in turn have sold Latin America approximately half of what it bought. These facts give us a feeling of gratification in the present distressed world. They appear to indicate that solidarity in the Western Hemisphere is being accomplished under normal business relations, and in spite of popular opposition. However, this generalization covers up some very uncomfortable situations and suppresses dangerous weaknesses. Actually only seven countries account for 85 per cent of the entire foreign trade of Latin America. Argentina and Brazil alone supply 40 per cent of the exports and take 50 per cent of the imports. These two countries are probably the weakest link in the plan of Western Hemisphere solidarity and in our plan of national defense.

To better understand some of the trade problems let us break

* The climate of Latin America, as a vital factor in land-use of the people, should be studied thoroly.

up Latin America into major geographical regions. To picture the situation just recall your map of Latin America. Draw an east-west line north of Ecuador and roughly along the Amazon. North of this line is the Caribbean Region which is the area most important to our national defense. In it are the West Indies, Mexico, Central America, the Guianas, Colombia, and Venezuela. This region produces a great variety of tropical products and numerous minerals that we can use. Individual countries buy from 45 to 70 per cent of their imports from us and sell from 13 to 90 per cent of their exports to us. The Caribbean Region, as a whole, buys 55 per cent of its imports from us, and it sends us 45 per cent of what it has to sell.

The West Coast Region ranks next in its trade with us, selling us 20 per cent of its exports and buying 30 per cent of its imports from us. The principal products sold by both the Caribbean and West Coast regions include coffee, tropical fruits, vegetable fibres, and such minerals as petroleum, tin, manganese, copper, gold, silver, lead, zinc. Most of the products of these two regions are wanted by us, i.e., they are complementary to our production. This indicates a reasonable probability that trade relations can be maintained on a mutually beneficial basis between us and these two regions. These regions are clearly of greatest importance to us in our plan of national defense. Can we overcome our desire for trade advantages so as to promote our own *ultimate* national welfare? Here is a problem that we—here at home—must face.

Let us turn next to the Southern Region which includes southern Brazil, Argentina, Uruguay, and Paraguay. This is a region of sub-tropical and temperate types of climate, similar, in many respects to the productive parts of the United States. It lies south of Cape St. Roque and is only a few days farther by ocean route from western Europe than from the Atlantic ports of the United States. Nearly all its products compete with ours on the world market. In general we have built a tariff wall against them. It sells only about 14 per cent of its exports to us and buys only 16 per cent of its imports from us. Only Brazil sells as much as a third of its exports to us. This ratio is due chiefly to coffee, a product that is meeting competition by production in the Caribbean Region. It remains to be seen whether reduced prices will enable Brazil to hold its leading position in the coffee trade with us.

The exports of this region are chiefly agricultural and include wheat, cotton, corn, meat, hides, flaxseed, wool, etc. Since Europe

does not produce sufficient food and other agricultural products for its needs under normal conditions, that continent becomes the natural market for this region. Its productive capacity is large enough to supply a German controlled Europe with nearly all the food it needs, and, many other raw materials in addition. In turn, the region will accept European manufactures in exchange, which is an almost ideal complementary situation. With Germany dominant in Europe the resources of that continent will be utilized on a systematically organized mass production basis, and many of the same manufactured products that we now produce will be offered at prices with which we probably cannot compete.

Germany sees here an excellent opportunity to gain control by a practical trade and credit system that appears to be of mutual value to all concerned. We *refuse* to take most of the products of this Southern Region because we produce them ourselves, tho we want them to *buy* our products. We continue to overlook the simple fact that these people must sell the products of their land in order to live, yet we expect them to refuse to sell to a German controlled Europe in exchange for the emotional concept of Western Hemisphere solidarity. If you were in their position just what would you do with your corn, wheat, and animal products? Are we really sufficiently interested in Western Hemisphere unity to accept products that compete with ours? Is there a politician who dares face the American farmer and ask for votes while he advocates the importation of agricultural products from this part of Latin America? How can we hold these people to a plan of Western Hemisphere solidarity while we reject the products of their land and labor? Yet, we cannot expect to maintain friends and at the same time refuse to have friendly trade relations with them. Germany and Italy are anxious to establish such relations. What are we going to do to meet this situation? Here is a first-rate problem for your students.

The Southern Region is farthest from us and is of least importance to us from the standpoint of national defense. Some take the view that we might as well let it go and let it pass under German or European control. However, that would destroy the idea of solidarity; afford a base for German occupancy and expansion thruout Latin America; and completely nullify the Monroe Doctrine and the philosophy of America for Americans. What should our policy be?

SUMMARY

Let us summarize some of the problems that we must face.

1. Can we develop a sympathetic understanding of, and friendly spirit of cooperation with, a people whose social and political ideals and economic status are vastly different from our own? This certainly means reeducation of ourselves. Are we equal to it?

2. Can we set national and Western Hemisphere long-time welfare, ahead of prospects of immediate gain?

3. Can we recognize that trade means *exchange* of goods and be willing to import goods even tho such goods compete with our own?

4. Can we come to realize that Western Hemisphere solidarity is as much *our* problem as it is of other countries, and that we may have to make the *larger* sacrifice in order to make it possible for weaker nations to remain a party to such solidarity?

5. Can all countries of the Western Hemisphere be brought to believe that Western Hemisphere solidarity is best from the standpoint of their own self-interest? Can the mass of people in our own country be made to believe that it is to our self-interest to foster friendly intercourse among all of the countries of Latin America? Are we prepared to pay the price?

These are just a few of the problems that we must face if we hope to unite the Americas so as to present to the world a Western Hemisphere of common ideals. Are we willing and ready to sacrifice personal gain and realign our thinking towards other countries in the Western Hemisphere? Are you, as a teacher of the social studies, dealing with these real, vital, and living problems, or are you glued to a non-flexible course of study that is supposed to follow some pedagogical theory?

G. J. M.

WHY NOT LATITUDINAL EQUATOR?

RAUS M. HANSON
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Forty years ago, when the equator was mentioned, there was only one line which was associated with the term. Now there are several equators recognized. The astronomer mentions the celestial equator as the line he locates in the sky directly above the so-called "geographical equator" about which grade children first learn. As climatic conditions of the earth have been studied, two other equators, the heat equator and the barometric equator, have been named. Both of these equators are moving lines, as they shift north and south during each year. The heat equator is the line which passes thru all points having the highest average temperature in any one month. The July heat equator is noticeably farther north than the January heat equator. The barometric equator passes thru the points having the lowest average pressure in the equatorial regions in any one month. The seasonal shifting of the barometric equator is similar to the changing location of the heat equator.

There has been a tendency to speak of the latitude line marked "zero" as the geographical equator. Since we meet other equators in the study of geography, the use of the term "geographical equator" gives too much precedence to the line of latitude. This line is useful in the location of places. Now with more study given to the controlling factors of the climate of an area, we should use terms which will avoid giving over-emphasis to the line of latitude as one of the group of the equators. The heat equator and the barometric equator indicate by the name of each its distinct characteristic. Why then do we not name the line of latitude the *latitudinal equator* since its distinct characteristic is to indicate latitude? Such a name would help to keep this line in its place as a line of location and would probably reduce the persistent tendency to use it as a controlling factor of climate.

INTEREST-STIMULATING DEVICE

A GEOGRAPHICAL MUSEUM

Suggestion to the teacher: Have a committee of pupils collect the exhibits. In many cases substitutes or even pictures can be used—labels being employed to help. For example, in lieu of a Panama hat, any straw hat may bear a label—"Genuine Panama Hat." Place the exhibits on scattered tables or desks so that congestion may be avoided and independent work encouraged. Each pupil takes the sheet of twenty-five descriptive phrases given below, and fills in each of the spaces opposite with the name of the correct exhibit. Interest is increased by having sides and putting on a time limit. Or if one chooses the identification of the geographical feature may be made from a list of the *names* of the articles—such as is given at the end of this sheet.

Each of the geographical features described below is suggested by one of the exhibits displayed. In the spaces provided name the appropriate article for each.

1. South American country .....
2. Country of the Balkans .....
3. Large island of the North Atlantic .....
4. Large Asiatic country .....
5. Country in both Europe and Asia .....
6. Central American country .....
7. Island of the West Indies .....
8. Island of the eastern Mediterranean .....
9. Island of the Dutch East Indies .....
10. Country of North Africa .....
11. City of Ireland .....
12. Capital of Switzerland .....
13. Great German port .....
14. Capital of Belgium .....
15. Capital of old Austria .....
16. Chief river of France .....
17. A coastal sea north of Russia .....
18. German city on the Rhine .....
19. Our best known National Park .....
20. Famous river of western Germany .....
21. River of central Germany .....
22. River of South Africa .....
23. Large river of China named for its color .....
24. Chief river of New York state .....
25. A sea south of Russia .....

Piece of cypress wood—A black letter "C."—Bottle of chili sauce—Coffee beans—An ice cube on a flower pot full of dirt—Container for Jamaica ginger—A white letter "C."—Toy turkey—Piece of leather (preferably Morocco)—Piece of China—Vienna sausage (wiener) or a Vienna roll—A cork—Piece of charred wood—Toy auto labelled "The New Hudson" or picture of same—A hamburger—Piece of stale cheese or anything odoriferous—Melon or meat rind—Piece of fish net—Piece of carpet labelled "Brussels"—A yellow stone—An orange—Yellow color slip from paint color card—Straw hat labelled "Genuine Panama"—Piece of lard, or a container marked "lard."

University of Illinois W. O. BLANCHARD

EDITORIAL NOTES AND NEWS

A recent report of the Census Bureau, containing preliminary data, presents figures that raise some interesting problems for teachers of the social studies. Sometime between 1930 and 1940 the birth and death rates changed so that the white population of the United States ceased to maintain its numbers. If these rates continue the white population (including Mexican) will decline about 5 per cent per generation, and the nonwhite population will increase about 7 per cent. During the same period the number of people 65 years of age and over increased 35 per cent, and the number under 9 years of age decreased greatly. The small number in the lower age group probably reflects the poor economic conditions of the depression years of 1930-1934. In turn the lower reproduction rate and improved mortality conditions probably account for the high ratio in the old age group. If prosperous times return will the birth rate increase sufficiently to produce at least a stationary white population? What are the chances for such conditions returning within a generation? How will these population trends affect our economic and social status? The increase in the old age group is probably reflected in numerous current problems such as, old age assistance and pensions, insurance, seniority rights, labor demands, taxes, national defense, types of consumer goods, adult education, expansion vs. contraction of our whole educational program. Are your students attacking some of these current problems?

DR. ISAIAH BOWMAN, President of Johns Hopkins University, addressed the Convention of School Administrators, Atlantic City, February 22-27, 1941, on "Peace and Power Politics."

The Northeastern Ohio Council of Geography Teachers had their spring meeting at Youngstown, Ohio, on Saturday, March 8. A program reflecting the political changes in Europe which the geography teacher must meet was presented by Miss Hobson and Mr. Wilbur Smith, both of Youngstown; Mr. Gregory of Educational Museum, Cleveland; and Mrs. Williams of Euclid. Miss Eisen of Kent State University summarized the program. A noon luncheon and field trip thru the Youngstown area were other features of the meeting.

WILLIAM HERMAN HAAS was honored recently by his former colleagues at Northwestern University, by the inauguration of a series of lectures to be known as The Haas Lectures in Geography, under the auspices of the Department of Geology and Geography of Northwestern University. Professor Haas came to the Geology Department of Northwestern University in 1914. He brought the field of geography into the Geology Department, remaining its head until his retirement in 1939. Because of Professor Haas' interest in and contributions to the geography of Latin America, the first of the series of lectures was devoted to Latin American topics. They were delivered by Mark Jefferson, Professor Emeritus of Geography, Michigan State Normal College, Ypsilanti, Michigan.

The Executive Board of the Nebraska Council of Geography Teachers has adopted a new plan for securing instructional material for its Bulletin. The material is prepared by a committee of teachers in a given county or counties with Board members and University Staff members acting as editors. The first of these Bulletins, January 1, 1941, sponsored by a committee of Lancaster County teachers, features two articles, one on community resources and the other on soils, both by Verna E. Powers, assisted by Lois Lehigh, rural teachers. The one on soils is a complete unit of work for upper elemen-

tary work; and altho dealing with Nebraska, is such that it could be readily adapted for use anywhere. The issue is edited by Professors Sorrenson and Darlington of the University of Nebraska.

The United States Commissioner of Education, announced recently the establishment in the United States Office of Education of a new service to schools known as the Information Exchange on Education and National Defense. By collection and loan of reports, summaries, and other materials, the Exchange will make available the thinking and experience of educational leaders. Schools are asked to send in materials, news of new or revised courses, programs and school activities valuable in promoting an understanding of what we are preparing to defend. School officials may borrow documents from the Exchange in this "Share The Knowledge" defense plan.

DR. DAVID J. SWARTZ, Chairman of the Geography Section of the New York Society for the Experimental Study of Education, continues the publication of the Section's mimeographed bulletin, *The Geography Teacher,* which features in the last issue, Notes on Modern Trends in Education.

It is one thing for the Weather Bureau to give data on weather conditions but it is another matter to educate the people to use that data to promote better living. Back in 1919, the Weather Bureau was advising against over-cultivation of our western plains and in December, 1919, the Bureau published an article, "Cultivation Does not Increase the Rainfall." Now, on January 28, the Weekly Weather and Crop Bulletin features a group of four maps, two showing two decades of percentages of normal rainfall in the United States, one showing the increase in acreage of harvested crops, and the fourth showing the population changes. These states, North and South Dakota, Nebraska, Kansas, and Oklahoma which showed the greatest rainfall deficiency in the two decades, and the greatest increase in cultivated acreage, show the greatest population losses.

H. H. BENNETT, Chief of the U. S. Soil Conservation Service, declares in his annual report to the Secretary of Agriculture that soil erosion has already damaged half of the land of our country and is costing us more than $3,800,000,000 a year. Of the approximately 415 million acres of cropland of the United States, only about 342 million acres are classed as "good" land. The remainder is either too worn by erosion, too steep, or otherwise unfavorable for cultivation, and should be in grass, timber, or other types of protective vegetation. Only about 62 million acres of the present cropland are non-erodible. Conservation is thus a matter of our future welfare. Fortunately, farmers are cooperating with the conservation program and if they receive sufficient aid from the government, Mr. Bennett believes that during the next ten years the forces of conservation will balance the forces of land waste. The Soil Conservation Service has set up more than 1,200 research, demonstration, farm forestry, land utilization, and watershed projects; nurseries; CCC camps; water facilities areas; and soil conservation districts. More than 1,600,000 acres formerly in cultivation have been, or will be, put to uses less conducive to erosion, such as hay land, pasture and range, farm woodlots, and wildlife reserves. Teachers of conservation may have for the asking a vast number of conservation bulletins from the Soil Conservation Service and the Forest Service of the United States Department of Agriculture, Washington, D.C., as well as from a number of other state and federal agencies. Many of these publications are listed in the "New Publications" column of the JOURNAL.

GEOGRAPHICAL PUBLICATIONS

Roderick Peattie. **Geography in Human Destiny.** 323 pp. maps, charts (by Arthur H. Robinson), index. George W. Stewart, New York, 1940, $3.00

Roderick Peattie was in rare literary form when he prepared this volume for non-professional readers. One has not read many pages before being reminded of Samuel Johnson's dictum that "in a paper designed for general perusal, it will be necessary to dwell most on things of general entertainment." Realizing that the public has come to expect from professors anything but entertaining literature, the author suggests that tho "a professor he may be a thoroly human geographer," and proceeds to show that the subject is "grand fun." Mr. Peattie spices his essays with a brand of humor that Doctor Johnson could not possibly command.

Two prefatory chapters deal with definitions and contrasting philosophic viewpoints but the author is no more successful with the former than many of his predecessors have been. At one point it is asserted that geography "has no important definitions of its own," and it deals with no data not already dealt with by some expert in another field . . . it is . . . a correlation between sciences. . . ." Perhaps the reader is to infer that the italicized definition "geography is the reciprocal relationship between physical environment and life" is unimportant, but he cannot fail to notice that it is vital to the author's thesis. "There are two schools of geographers," he says, "according to the side of the relationship each may choose to stress," and by word, if not always by deed, he aligns himself with the group that stresses the effect of the environment on many. "There are many more expert chorographers than your author, and this little volume is largely only a defense of the almost-discarded environmentalism." He finds later that he cannot be wholly an environmentalist for in many cases "the failure of geographic environment greatly embarrasses me in my thesis," and, in any event, "most facts of geography . . . are not environmentalistic."

The development of the thesis proper commences with Chapter III "Understanding Evolution," and continues thru Chapter XV "The Realism of Autarky,"—one might say that it opens with the Pliocene and ends with the dictators. Regional examples are drawn from here and there, with most emphasis on western Europe, the Near East and the Mediterranean lands in early times. These provocative chapters display a breadth of view and a command of the social sciences and the humanities which few geographers could even approximate. The reader learns to expect the unexpected, for Mr. Peattie frequently departs from burdensome chronology. For example, in "The Importance of Isolation," the scene is abruptly shifted from the Egypt of the Pharaohs to the swamps of Pinsk in recent times. Also, time and again the author turns from his true course to tilt with many windmills, but the encounters reveal such dexterity as to spare him from the reprimands which he probably deserves.

The two final chapters "National Conservation is Socialism," and "The Geography of Peace," are a kind of after-word by one who has thought deeply on current social problems. Characteristic statements are: "My philosophy of history is that great leaders . . . are but interludes," and "I have tried to write a book about the progress of man . . . but, alas, men have made such a sorry mess of their own story that one might have entitled this little volume 'From Stone Ax to Dive Bomber.'"

This is not a "must" book for teachers, but it is a "cover-to-cover" book. Should you start to read *Geography in Human Destiny* just try to lay it aside unfinished.

RALPH H. BROWN

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